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ABSTRACT
This research examines the psychological avenues in processing extrinsic numerical cues and its verbal counterpart in the context of product series evaluation, which is affected by the mere choice of product labels on a newer generation with the membership being indexed either numerically or verbally. A theoretical model is proposed to account for this “label effect” which posits that numerical labels activate an expectancy mode to unconsciously search outward for information compatible with the expected product specification, while equivalent descriptive labels activate a self-fit mode to unconsciously search inward for incidental goals congruent with the anticipated product experience.

INTRODUCTION
Consumers are known to attend to extrinsic cues, such as brand names, during consumption experiences (Dodds et al., 1991) and are sensitive to the presentation format of such marketing information (Biehal and Chakravarti, 1982; Levin and Gaeth, 1988), sometimes in a nonconscious manner (Fitzsimons and Shiv, 2001; Shiv et al., 2005; Chartrand, 2005; Chartrand et al., 2008). Therefore, the manufacturer’s decision to assign a brand name or a label to a product in general is certainly strategic (Keller, 1993; Robertson, 1989; Pavia and Costa, 1993). A manufacturer typically carries a line of related products (a product series) as a result of innovations over time. Subsequently, when naming a product from a later generation in this series, the manufacturer oftentimes adopts the original brand name of its predecessor from an earlier generation to take advantage of the established brand equity, and adds a new component to index membership. This new component in the brand name is mostly seen in either numerical forms (e.g., Airbus 320, 330, 380; Acrobat Reader 7, 8, 9) or descriptive/verbal forms (e.g., Nike Air Max Light preceded by Nike Air Max).

While the use of this umbrella branding strategy is deliberate, the choice between a numerical and an equivalent descriptive form seems more idiosyncratic and largely interchangeable, at least as seen in the eyes of the consumers. One of the best illustrations of such perceived random choice in naming schemes comes from the Microsoft Windows OS series. The latest generation Windows 7, released in 2009, only surprisingly has its most immediate predecessor in terms of the same numerical naming scheme back in 1990 (Windows 3). During almost two decades in between, several descriptive names, among others, were dragged to fill in the seemingly odd blanks (e.g., Windows XP, Windows Vista). Please note that I am not claiming that manufacturers are always reckless in choosing between numerical and descriptive naming schemes for their product series. It is only that the decision criterion behind such choices, which may or may not be effective, is usually unknown to consumers and researchers alike. The focus of this research, however, is to understand how consumers process numerical and (equivalent) verbal information, and the resulting patterns in judgment and evaluation. In the end, manufacturers should be more able to design appropriate brand names for a product series if they have such additional knowledge about consumers at hand.

I contend that consumers have a consistent yet nonconscious pattern in processing the inter-product information (such as innovation) embedded in an extrinsic cue, whether such information is conveyed through numerical or verbal components in product series brand names. Specifically, numerical information in a product series brand name (henceforth numerical label) activates an expectancy mode in which consumers nonconsciously search outward for product specifications compatible with the expected outcome; and verbal information in a product series brand name (henceforth descriptive label) activates an self-fit mode in which consumers nonconsciously search inward for motivational constructs (such as goals) congruent with the anticipated product experience.

ALPHA-NUMERIC BRANDING AND COMPARATIVE JUDGMENT
To motivate the discussions of including a numerical or descriptive (verbal) component in a product series label, I draw theoretical background from the literatures on alpha-numeric branding and comparative judgment. First, there is a small cohort of research studying optimal brand name design. Robertson (1989) provides a list of desirable brand name characteristics based on phonetic and semantic appeals. More specifically, research shows that consumers perceive alpha-numeric brand names favorably (Boyd, 1985; Pavia and Costa, 1993; King and Janiszewski, 2009) whenever appropriate. Alpha-numeric brand name is defined as “a (brand) name that contains one or more numbers” (Pavia and Costa, 1993), equivalent to the term of numerical label adopted in this research. People are known to interpret number information through multiple cognitive channels, such as stereotyping of certain “good” or “bad” numbers (Simmons and Schindler, 2003) and classical conditioning of certain “special” numbers (Goodman and Irwin, 2006) without relying on the conscious belief in the associative systems. Therefore, using numbers in brand names has proved its theoretical relevance. Pavia and Costa (1993) opt for an exploratory research via focus groups to identify common reactions towards alpha-numeric brand names. They find respondents generally agree that alpha-numeric brand names are suggestive of product series and are more appropriate for functional/technical products than for fun/sensuous products. However, the authors do not specify the cognitive foundations behind their findings. More recently, King and Janiszewski (2009) find that certain numbers are favored more than others due to the differences in metacognitive experiences of fluency. Therefore, brands with such numbers are evaluated more favorably than those who do not.

Then, it should be noted that the product series paradigm used in this present research has its root from the law of comparative judgment (Thurstone, 1927), which focuses on measuring the perceived intensity of stimuli through pairwise comparisons rather than measuring the standalone physical properties. In this spirit, a product is judged by its membership in a product series rather than just by its own features. Hsee and colleagues started a line of research on separate and joint evaluations of product options (please see Hsee et al. 1999 for a review) which posits that some types of product features are easier to evaluate than others in a joint evaluation mode. This finding speaks for an interesting class of preference reversal effects. The inter-product relation within a product series, such as innovation, is inherently easier to evaluate in a joint evaluation mode (i.e., joint evaluation across product generations). So the use of this product series paradigm should predict novel (and potentially different) patterns of preferences compared to the use of a single-product paradigm.

Given the product series paradigm, it is natural to go beyond numerical labels (i.e., alpha-numeric brand names) and include descriptive/verbal labels into the model, since it is also a widely

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1 Henceforth, “verbal” and “descriptive” are used as equivalent terms.
accepted candidate to denote membership in a product series. In this research, I define this descriptive component in the product label as an adjective quantifier, such as [brand name] Elite Edition or [brand name] Xtra. Previous research that explicitly contrasts the use of numerical and verbal information is scarce. The most relevant work in this line focuses on the memory representation and distortion of such information (Viswanathan and Childers, 1996). They study the product attribute domain where either numerical or verbal information is used to express magnitude (e.g., 10 calories versus low calories) and find that numerical attribute information is more prone to memory distortion and is therefore easier to deviate from its original representation than numerical information. Then, they conclude that numerical information is generally more preferable for memory tasks (such as recall or recognition) than its verbal counterpart. They also argue that numerical information does not have meaning by itself unless being compared against each other while verbal information is inherently descriptive.

**NONCONSCIOUS CONSUMPTION OF EXPECTANCY AND FIT**

Previous research on cognitive elaboration suggests that peripheral cues are less important in persuasion when there is sufficient motivation or ability to process the true merits of the stimulus (Petty and Cacioppo, 1986). However, there is also ample evidence that, holding the physical consumption constant, the consumption of information (such as the information embedded in peripheral/extrinsic cues) can redirect the whole consumption experience (Shiv et al., 2005; Ariely and Levav, 2000; Morales and Fitzsimons, 2007). To generalize the role of consuming information, Ariely and Norton (2009) propose a conceptual consumption account to pin down this independent effect “over and above utility from physical consumption”. The conceptual consumption account posits that consumers may forgo positive physical consumption or choose negative physical consumption when the information compatible with certain psychological avenues becomes available. Two such psychological avenues that are most relevant to this present research are expectancy and regulatory fit.

There has been lots of evidence that expectancy can influence consumptions and this stream of research in psychology/marketing is analogous to the medical research on the placebo effect of medical treatments (please see Price et al. 2008 for a review). Shiv et al. (2005) study the placebo effect of price and find subjects who consume an energy drink bought at a discounted price perform worse on a follow-up puzzle solving task compared to those who consume the same drink at a regular price. They propose that the expectancy on the price-quality association leads to this effect. Besides price, brand is also documented as a stimulus that alters expectancy. Allison and Uhl (1964) find that consumers believe their favorite brand beer tastes better when they see the brand displayed, however they report it tastes just the same as any other beer when there is no brand information.

As for regulatory fit, it is natural to view it as a class of conceptual consumption because this is basically a metacognitive experience of feeling right and all metacognitive experiences involve “the interplay of declarative and experiential information” (Schwarz, 2004 & 2006). Higgins and colleagues study the regulatory fit effect in a set of research, positing that the fit is experienced when there is a manner of decision making (e.g., eager or vigilant) that sustains the goal orientation (e.g., promotion/prevention focus). Avnet and Higgins (2006) explore the use of feelings/reasons as psychological equivalence to the use of explicitly manipulated (eager/vigilant) manners. Borrowing from Viswanathan and Childers (1996), it is consistent in this present research to deduce that numerical labels are perceived as reason-intensive while descriptive labels are perceived as feeling-intensive; meanwhile, the incidental goal priming in the present research for the shift/prestige focus (see Chartrand et al., 2008) is induced through an item listing task adapted from Idson et al. (2000) & Cesario et al. (2004). I use the “unrelated studies” paradigm (Avnet and Higgins, 2006) in this present research so the goal priming is seemingly unrelated to label conditions in order to allow the possibility of nonconscious processes. Finally, it should be noted that the automated choice of a psychological avenue (expectancy/fit) in conceptual consumptions is situational and dependent on the availability of relevant information (Schwarz, 2006), such as the numerical/verbal cues in the present research.

Interestingly, both classes of conceptual consumption may be potentially experienced in a nonconscious manner. Shiv et al. (2005) find that the expectancy on price-quality association is processed out of the awareness of consumers. Analogously, Jones et al. (2002) find the fit between the preference for letters used in self name and self-esteem level is experienced unconsciously. Extant research on nonconscious goals (Chartrand et al., 2008; Chartrand, 2005; Fitzsimons et al., 2002; Fitzsimons and Shiv, 2001; Janiszewski and von Ossaeler, 2005) suggests that incidental goals can be activated by extrinsic cues, such as brand names. Although consumers are generally aware of the outcome of the goal once it is fulfilled, they can be nonconscious of the source and/or process of this goal. Also, certain metacognitive experiences (such as fit or fluency) may actually be due to nonconscious processes (Fitzsimons et al., 2002). The nonconscious property is examined through extensive debriefing (Chartrand, 2005) and/or mediation tests (Shiv et al., 2005). The present research focuses on the latter, but collects some qualitative evidence as well.

**Hypotheses**

Taken together, the number processing, conceptual consumption, and nonconscious goal literatures provide the following insights for this present research. First, numerical labels are easier to compare against each other due to the fact that numbers are inherently ordinal. In the product series paradigm, numerical labels facilitate direct specification comparison across product generations, where the gains in utility (or, innovations) are distributed along declarative (utilitarian) dimensions. However, descriptive/verbal labels are easier to trigger subjective interpretation of an anticipated product experience due to the fact that adjective quantifiers are inherently descriptive. In the product series paradigm, descriptive labels help appreciate the gains in utility (or, innovations) that are distributed along experiential (hedonic) dimensions. This distinction in innovation judgment due to labels shall become blurred when the numerical or descriptive information in the labels becomes less diagnostic.

**Hypothesis 1a:** Consumers judge a product belonging to a product series with numerical labels more favorably when the judgment is on the utilitarian dimensions. They judge descriptive labels more favorably when the judgment is on the hedonic dimensions.

**Hypothesis 1b:** The judgment shall converge once the numerical or descriptive information in the labels becomes less diagnostic.

Second, a natural conjecture from the above hypotheses is that the label effect shall be moderated by the type of product messages available to consumers (presumably during various chances of exposures to marketing campaigns). To be specific, declarative
product messages that meet expectations of certain product specification improvement shall be more appreciated when paired with numerical labels. On the flip side, experiential product messages that meet an incidental goal orientation shall be more appreciated when paired with descriptive labels.

**Hypothesis 2:** Consumers prefer a product belonging to a product series with numerical labels when they observe declarative product information. They prefer descriptive labels when observing experiential product information.

Third, since labels are basically extrinsic cues, consumers may be unaware of this information in forming judgment. They can be clueless if they ever use this information or how to use such information. In the product series paradigm, they can be unaware of the changes in expectancy (in the case of numerical labels) or feeling right (in the case of descriptive labels) that is attributable to labels. Alternatively, consumers might also consciously and intentionally make inferences from the labels like they typically make from many product features. I hypothesize that:

**Hypothesis 3:** Consumers engage in a nonconscious processing of certain extrinsic cues, particularly product series labels.

And finally, this present research aims to pin down the psychological factors that are likely to influence this label effect. Based on previous findings on expectancy and regulatory fit (e.g., Shiv et al., 2005; Avnet and Higgins, 2006), expectancy strength and incidental goal priming are two promising candidates for this purpose and I will further elaborate on these in the respective experiments. Here, I hypothesize that:

**Hypothesis 4:** Consumers prefer a product belonging to a product series with numerical labels when they are in a high expectancy strength condition (versus a low expectancy strength condition); Expectancy strength has no effect on descriptive labels.

**Hypothesis 5:** Consumers prefer a product belonging to a product series with descriptive labels when they are primed with a prestige orientation. They prefer numerical labels when primed with a thrift orientation.

**STUDY 1**

The goal of study 1 was to test the hypothesis that numerical labels lead to different product series judgment compared to descriptive labels, depending on whether the judgment is on the utilitarian or hedonic dimensions (hypothesis 1a). Participants were asked to state their judgment on a new generation automobile belonging to an automobile series with either a numerical label or a descriptive label to index its generation. Each participant made judgment on both utilitarian and hedonic measures. It was expected that participants in the numerical label condition would judge this new generation automobile more favorably on utilitarian measures while those in the descriptive condition would judge the automobile more favorably on the hedonic measures.

**Design and Procedure**

Study 1 used a between-subject manipulation of the label conditions (numerical, descriptive). One hundred and fifteen undergraduate students from a large Midwestern university participated in this study for course credit. Participants were invited into a behavioral lab and were told that the study investigated “product design in the automobile industry”. They were instructed that a fictitious model XYZ is a popular automobile model made by an anonymous automobile manufacturer. Now the manufacturer is in the process of designing a new generation of this model. For the participants in the numerical condition, they were instructed that the manufacturer is to market the new generation as model XYZ 2 and put it into production next year. For the participants in the descriptive condition, everything was similar except that they were instructed that the new generation will be marketed as XYZ SE (Special Edition). No other information was given to the participants.

Then the participants were instructed that, at this stage, the public knew very little about this new generation automobile and they were asked to offer their best intuitive guess on this new model by using 7-point scales (1 = strongly disagree and 7 = strongly agree) on the following statements – “The new model is fun”; “The new model is entertaining”; “The new model is exciting”; “The new model is well designed”; “The new model is functional”; and “The new model is practical”. The order of these statements was randomized. “Fun”, “entertaining” and “exciting” statements were designed to make hedonic judgment. And “well designed”, “functional” and “practical” statements were designed to make utilitarian judgment. Finally, the participants were asked how likely they would like the new model by a 7-point scale (1 = least likely and 7 = most likely) and they were invited to write down their other free thoughts about the new model (if there was any).

**Results**

The results from three utilitarian statements (well-designed/functional/practical) were combined to form a utilitarian measure (Cronbach’s $\alpha = .93$) and the results from three hedonic statements (fun/entertaining/exciting) were combined to form a hedonic measure (Cronbach’s $\alpha = .95$). The data were analyzed using a one-way between-subject ANOVA with the label as the between-subject factor. The main effect of the label on the utilitarian measure was significant ($F(1,113) = 25.22, p < .001$), and the main effect of the label on the hedonic measure was also significant ($F(1,113) = 7.86, p < .05$). Participants in the numerical label condition judged the new model more favorably on the utilitarian measure ($M = 4.96$) than participants in the descriptive label condition ($M = 4.02$; $t(113) = 3.73, p < .001$). In contrast, participants in the descriptive label condition judged the new model more favorably on the hedonic measure ($M = 5.28$) than participants in the numerical label condition ($M = 4.76$; $t(113) = 1.97, p < .05$).

**Supplemental Analysis.** When using a more inclusive judgment variable “like”, it turned out that the label effect was insignificant ($F(1,113) = 2.17, p > .10$). In fact, participants liked the new model similarly, no matter they were in the numerical label condition ($M = 4.93$) or in the descriptive label condition ($M = 4.59$; $t(113) = 1.47, p > .10$).

**Discussion**

Study 1 demonstrates that consumers have more favorable utilitarian judgment on the product series using numerical labels. And they have more favorable hedonic judgment on the product series using descriptive labels. This pattern provides evidence in support of hypothesis 1a. Since there was no other product information available in this study except for the label condition.
itself, the resultant effect should be clearly attributable to the label manipulations. The findings in this study are generally in line with Pavia and Costa (1993) where they posit that functional or technical products are more appropriate to use alpha-numeric brand names than fun or sensual products.

Interestingly, the label effect is insignificant on the inclusive judgment variable “like” when this “like” is not projected onto a more specific hedonic or utilitarian dimension. This finding confirms that people have no hardwired preferences for either kind of label when used in a product series. In other words, neither numerical nor descriptive labels have an absolute advantage over its counterpart in terms of the holistic preferences. However, study 1 suggests that different types of labels are indeed advantageous on different facets of preferences. The next question is, naturally, what might be the relevant information that is more conducive to utilitarian (versus hedonic) judgment when a numerical (versus descriptive) label is used in a product series?

**STUDY 2**

Study 1 found that consumers favor product series with numerical labels during utilitarian judgment and favor descriptive labels during hedonic judgment. If this is so, it is then possible to identify a particular type of informative product message that is conductive to a particular dimension of judgment. The goal of study 2 was two-folded. First, I wanted to test the hypothesis that consumers prefer a product series with numerical labels when they have access to the declarative product message. On the flip side, they prefer descriptive labels when having access to the experiential product message (hypothesis 2). Second, I wanted to additionally test the hypothesis that consumers make use of the product series label information in a nonconscious manner (hypothesis 3). Participants were asked to state their preference for the sequel to an animation movie. The membership of the sequel in this movie series was indexed either with a numerical label or with a descriptive label. Unlike the generic brand in study 1, here I used an actual movie title. It was expected that the participants in the numerical label condition would favor the sequel more than those in the descriptive label condition when they were presented with declarative movie information on its plot; and participants in the descriptive label condition would favor the sequel more than those in the numerical label condition when they were presented with experiential movie information on 3D enhancement.

**Design and Procedure**

Study 2 used between-subject manipulations on both factors - the label conditions (numerical, descriptive) and the movie information conditions (declarative message on plot, experiential message on 3D enhancement). Two hundred and fifty-six undergraduate students from a large Midwestern university participated in this study for course credit. Participants were invited into a behavior lab and were told that the study was to investigate consumer preferences for the sequel of *Up*, a 2009 American computer-animated film.

For the participants in the numerical label condition, they were told that the sequel will be named as *Up 2*. For those in the descriptive label condition, they were told that the sequel will be named as *Up: Russell’s Special Mission*. For the participants in the declarative message condition, they were told that “Pixar recently announced that the screen writer of *Up* will write the sequel. And the studio plans to bring back the producing team from *Up*. The voice actors for the two main characters will reprise their roles in the sequel.” For those in the experiential message condition, they were told that “the sequel will be one of the world’s most expensive animation movies and will be the first full-length movie in the history to use the latest Digital 3D IMAX technology, which can significantly improve the 3D viewing experience especially for viewers sitting closer to the screen, a major unsatisfying problem for many traditional 3D movies”.

Participants were randomly assigned to one of the four combinations of these conditions. They provided responses on 7-point scales for two dependent measures: “liking of the sequel”, and “the intention to watch this sequel”. Additionally, I recorded data on two covariate measures: “how do you like animation movies in general (on a 7-point scale)”, and “have you watched the original title *Up* before?” (binary).

Finally, I did two things for the nonconscious process hypothesis. One was to design a mediation test adapted from Shiv et al. (2005). At the end of the study, I asked the participants to rate how relevant that they felt the name of the sequel was to their preferences of the sequel on a 7-point scale ranging from 1 (“not at all relevant”) to 7 (“very relevant”). The rationale was that if the participants were nonconscious of this process, this relevance measure should not mediate the effects of the independent variables on the dependent measures. The other thing that I also did was to ask the participants to write down their thoughts on the potential hidden agenda of this study (if there was any) or any other thoughts about this study in general. This was not as rigorous as the extensive debriefing proposed by Chartrand (2005), but was designed as a mini version to accommodate administrative constraints during the study.

**Results**

The data were analyzed using a two-way between-subject ANCOVA with the label and message as the two between-subject factors and with the two covariate measures as mentioned earlier. The label by message interaction was significant as expected ($F(1, 249) = 59.54, p < .001$) for the “liking” dependent measure and ($F(1, 249) = 54.18, p < .001$) for the “intention to watch” dependent measure. Furthermore, participants in the numerical label condition liked the sequel more when they were presented with declarative messages ($M = 4.48$) than with experiential messages ($M = 3.57$; $t(134) = 2.81, p < .005$). On the flip side, participants in the descriptive label condition liked the sequel more when they were presented with experiential messages ($M = 4.50$) than with declarative messages ($M = 3.49$; $t(118) = 3.71, p < .001$). With the “intention to watch” dependent measure, I also got the similar crossover pattern. Specifically, participants in the numerical label condition were more likely to watch the sequel when they were presented with declarative messages ($M = 4.31$) than with experiential messages ($M = 3.41$; $t(134) = 2.73, p < .01$). In contrast, participants in the descriptive label condition were more likely to watch the sequel when they were presented with experiential messages ($M = 4.20$) than with declarative messages ($M = 3.26$; $t(118) = 3.30, p < .001$). Additionally, “watched the original title before” was the only significant covariate on the “intention to watch” dependent measure ($F(1, 249) = 73.83, p < .001$). No other covariates were significant in any other cases.

**Nonconscious Processing.** As discussed earlier, I used a mediation approach to address this issue. Recall that at the end of the study, I asked the participants to rate how relevant that they felt the name of the sequel was to their preferences of the sequel on a 7-point scale ranging from 1 (“not at all relevant”) to 7 (“very relevant”). Had the participants been conscious of this process, this relevance measure should have mediated the effects of the independent variables on the dependent measures. Sobel tests on both dependent measures failed to support such mediations (Sobel $z = .32, p = .37$ for the “liking” dependent measure; Sobel $z = .28, p = .38$ for the “intention to watch” measure). This result suggests the nonconscious processing hypothesis. Additionally, on the hidden
agenda thoughts elicitation task, none of the participants correctly guessed the purpose of this study or suggested that their preferences were resultant of the sequel name. This also provides another piece of evidence that the participants were unaware of the process.

STUDY 3

Study 3 was designed to focus on the expectancy mode and address three issues. First, I wanted to test the hypothesis that the numerical label effect is stronger when consumers have a strong expectation (that an improved specification in the new generation leads to gains in utility) than when they have a mild expectation. This prediction should not hold for the descriptive label effect (hypothesis 4). Second, I wanted to test the hypothesis that numerical labels are evaluated similarly as descriptive labels whenever the numerical information becomes less diagnostic for comparative judgment (hypothesis 1b). And third, I wanted to continue investigating the nonconscious nature of the label effect (hypothesis 3). Participants were asked to state their preference for a new model of portable media player from the family of such players. The membership of this new model in its family was indexed with a typical (diagnostic) numerical label, an atypical (non-diagnostic) numerical label, or a descriptive label.

Design and Procedure

Study 3 used between-subject manipulations on the two factors – the label conditions (typical numerical, atypical numerical, descriptive) and the expectancy strength conditions (high, low). Three hundred and six national adult samples from an online paid subject pool were recruited for this study. They were told that the study was meant as a survey for portable media player designs and read the following instructions – “Creative Labs is a portable media player producer with a strong foothold in European and Asian markets. Its flagship player, Creative ZEN, was released in 2008. It was the world’s first 32 GB flash memory based player. Now the company’s top priority is to get a more substantial market share in North America where it plans to launch a successor to the popular Creative ZEN next year. This next generation player will set a new world record of 64 GB capacity with an additional SDHC card slot for even bigger storages”.

The participants were then instructed that the new generation player would be marketed as Creative ZEN 2 (for typical numerical label condition), Creative ZEN 200 (for atypical numerical label condition), or Creative ZEN Pro (for descriptive label condition). Meanwhile, the expectancy strength conditions were manipulated as suggested in Shiv et al. (2005). Particularly, participants in the high expectancy strength condition were instructed that “according to a preliminary marketing analysis, the new features in this next generation player will definitely help attract significant attention from a large number of North American consumers”. Those in the low expectancy strength condition were instructed that “according to a preliminary marketing analysis, the new features in this new generation player might help attract some attention from certain North American consumers”.

Participants were randomly assigned to one of the six combinations of these conditions. They provided responses on 7-point scales for a set of three dependent measures: “liking of the new player”, “intention to buy the new player”, and “worth recommending the new player to friends”. I also use 7-point scales for a set of three utilitarian statements as I did in study 1 and collected data on routine demographic covariates as I did in study 2. For the nonconscious process hypothesis, the data collection procedures were similar to study 2 where I used a relevance scale for the mediation test and a mini debriefing for qualitative evidence. However, the relevance scale in this study was designed as more nuanced in that I did not ask for the relevance of label per se; instead, I asked for the relevance of the expectancy to the preference – “How relevant that you feel the preliminary marketing analysis was to your preference for this new player?” This change should make the relevance scale less susceptible to demand artifacts and more straightforward to identify if the non-consciousness of interest was due to the nonconscious process of expectancy.
Results
The data were analyzed using a 3 (typical, atypical numerical labels & descriptive label) by 2 (high & low expectancy strengths) factorial between-subject ANOVA. The demographic covariates turned out insignificant and were eventually dropped in the analysis. The three dependent variables (“liking of the new player”, “intention to buy the new player”, and “worth recommending the new player to friends”) were combined to form a preference measure (Cronbach’s $\alpha = .85$). Consistent with study 1, the three utilitarian statements (“well-designed”, “functional”, and “practical”) were combined to form a utilitarian measure (Cronbach’s $\alpha = .91$). The main finding was that the label by expectancy strength interaction was significant as expected ($F(2,300) = 3.48, p < .05$) for the preference measure. Particularly, participants in the typical numerical label condition prefer the new player more ($M = 5.01$) than those in the atypical numerical label condition ($M = 4.53$; $t(101) = 1.65, p < .1$) or those in the descriptive label condition ($M = 4.49$; $t(104) = 1.97, p < .05$) when they had high expectancy strengths (Note: the difference between the latter two means was insignificant: $t(115) = .21, p = .84$). Besides, the only significant preference change between high and low expectancy strengths happened in those assigned to the typical numerical condition ($M_{high} = 5.01, M_{low} = 4.18$; $t(85) = 2.71, p < .01$). There were no significant preference changes in the remaining two label conditions ($p’s > .65$) between high and low expectancy strengths.

Nonconscious Processing. The results were consistent with study 2 in support of the nonconscious hypothesis. As discussed earlier, I used a modified relevance scale for the mediation test. Recall that at the end of the study, I asked the participants to rate how relevant that they felt the preliminary marketing analysis was to their preferences of the new player on a 7-point scale ranging from 1 (“not at all relevant”) to 7 (“very relevant”). Had the participants been conscious of the role of expectancy, this relevance measure should have mediated the effects of the independent variables on the dependent measure. A Sobel test failed to support such mediations (Sobel $z = -.10, p = .39$). This result suggests the nonconscious processing of expectancy. Additionally, on the hidden agenda thoughts elicitation task, none of the participants correctly guessed the purpose of this study or suggested that their preferences were resultant of the marketing analysis. This also provides another piece of evidence that the participants were unaware of the role of expectancy.

Discussion
Study 3 demonstrates that consumers prefer a product series with (diagnostic) numerical labels when they have high expectancy strength. Expectancy strength has no effect on descriptive labels or (non-diagnostic) numerical labels alike. This pattern provides evidence in support of hypothesis 4 in that numerical labels (rather than descriptive labels) distinctly activate an expectancy mode as a psychological avenue to process extrinsic cues. The resultant effect is stronger when the expectancy of a specification-induced outcome is stronger (for instance, in the high expectancy strength condition, the marketing analysis speculated that the new player would be hugely successful due to specification improvement over the older generation).

The fact that the non-diagnostic (atypical) numerical labels were treated as if they were descriptive labels supports hypothesis 1b. The diagnosticity of the numerical information in this product series paradigm is simply the sufficiency of the input for a comparative judgment task.

Finally, study 3 also confirms the nonconscious process prediction in hypothesis 3. This is consistent with the finding in study 2. Particularly, I find that consumers handle the expectancy of a specification-induced outcome in a nonconscious manner, which is in line with the finding in Shiv et al. (2005) that consumers process price-quality associations unconsciously. Next, I switch gears to study regulatory fit as the other psychological avenue to process extrinsic cues and perform an analogous process analysis with respect to nonconscious goals.

STUDY 4
Study 4 was designed to complement study 3, and focused on investigating the role of regulatory fit as another means (versus expectancy) to process extrinsic cues. There were two purposes for this study. First, I wanted to test the hypothesis that a product series with a descriptive label is preferred when consumers are primed with a prestige focus. In contrast, a numerical label is preferred when they are primed with a thrift focus (hypothesis 5). And second, I wanted to continue investigating the nonconscious processing perspectives (hypothesis 3) and I focused on the aspect of nonconscious goals in this study.

Design and Procedure
Study 4 used a between-subject design with two factors – the label conditions (numerical, descriptive) and the goal priming conditions (thrift, prestige). Two hundred and twenty-seven national adult samples from an online paid subject pool were recruited for this study.

At the beginning of the study, the participants were randomly primed with a thrift or prestige goal through an item listing task suggested by Idson et al. (2000) & Cesario et al. (2004). For participants in the prestige priming condition, they were given the following instructions – “Suppose you get your dream job and you are in great financial conditions, how you would spend your money in the next five years to make you feel happy and fulfilling? Please list five such spending”. For those in the thrift priming condition, the instruction was – “Let’s think broadly about the future. What might be your most concerned financial problems or general economic situations in the next five years? Please list five such concerns”. Then, the participants were assigned to a short unrelated filler task to help set up the “unrelated studies” paradigm (Avnet and Higgins, 2006), which better allowed the possibility of processing nonconscious goals because the goal priming was seemingly separate from the later label conditions.

Next, the participants were told that they were invited to take a survey for e-book reader designs with the following instructions – “Kindle is an e-book reader developed by Amazon. The original Kindle was released in November 2007. It was sold out on the first day and the device remained out of stock until April 2008. Earlier this year, Amazon just released a new generation of Kindle. This next generation Kindle model had a trendy facelift with an overall thickness of mere .36 inches”. They were then instructed that the new generation was marketed as Kindle 2 (for the numerical label condition), or Kindle DX (for the descriptive label condition).

Participants were therefore randomly induced into one of the four label-by-prime conditions. The types of dependent variables collected were analogous to study 3. The setup on the non-consciousness investigation was also analogous to study 3, except that the wording in the relevance scale was modified to examine the nonconscious goals – “How relevant that you feel your hypothetical future financial well-beings were to your preference for this new Kindle model?”
Results
The data were analyzed using a two-way between-subject ANCOVA with the label and goal priming as the two between-subject factors and with a scale covariate (“how do you feel a consumer electronic product representative of you being who you are?”) that turned out marginally significant ($p = .06$). Analogous to study 3, the three preference variables were combined to form a preference measure (Cronbach’s $\alpha = .90$) and the three hedonic statements were combined as a hedonic measure (Cronbach’s $\alpha = .97$). I found the label by goal prime interaction was significant as expected ($F(1, 220) = 6.24, p < .05$) on the preference measure. Particularly, when primed with a prestige goal, the participants preferred descriptive labels more ($M = 4.60$) than numerical labels ($M = 4.12$; $t(104) = 1.72, p < .1$). However, I did not find the predicted crossover pattern with the thrill goal priming. It turned out that when primed with a thrill goal, the participants had similar preferences between numerical ($M = 4.26$) and descriptive label conditions ($M = 3.91$, $t(119) = 1.35, p = .18$). Moreover, the preference for numerical labels was insensitive to the goal priming ($p = .51$).

Nonconscious Processing. Recall that at the end of the study, I asked the participants to rate how relevant that they felt your hypothetical future financial well-beings were to their preferences of the new Kindle model on a 7-point scale ranging from 1 (“not at all relevant”) to 7 (“very relevant”). Had the participants been conscious of the role of goal priming, this relevance measure should have mediated the effects of the independent variables on the dependent measure. A Sobel test failed to support such mediations (Sobel $z = .22$, $p = .38$). This result suggests the nonconscious goal hypothesis. Additionally, on the hidden agenda thoughts elicitation task, none of the participants correctly guessed the purpose of this study or suggested that their preferences were resultant of the earlier item listing task for the goal priming.

Discussion
Study 4 partially supports hypothesis 5 in that descriptive labels are indeed advantageous under the prestige priming. But there is no parallel pattern for the numerical labels under the thrill priming. In fact, a new product generation indexed with the numerical label is insensitive to goal priming in general. Although all these results do suggest that descriptive labels (rather than numerical labels) distinctly activate a fit mode as a psychological avenue to process extrinsic cues (e.g., when primed with a prestige goal, consumers may feel right to interpret the descriptive label, such as DX (deluxe) in this study; and such an interpretation is facilitated by the portrayal of the trendy thin look in the product message), the lack of the crossover pattern for the numerical label under the thrill priming is somehow surprising.

Previous literature posits that there is “feeling right (i.e., fit)” when the reason-intensive stimulus (such as the numerical label) sustains a thrust focus, or when the feeling-extensive stimulus (such as the descriptive label) sustains a prestige focus. Subsequently, the conceptual consumption of such a stimulus becomes more favorable when this “fit” is met (Avnet and Higgins, 2006; Viswanathan and Childers, 1996; Chartrand et al., 2008). In this study, the effect due to descriptive-label-prestige-goal fit is congruent with the previous literatures. However, the lack of the effect under numerical-label-thrust-goal fit is probably due to the fact that, within a product series paradigm, the numerical label is not sufficient to sustain a thrust goal. In a single-product paradigm, recall that the numerical information in the brand name suggests a number-magnitude-quality association, and may provide a basis of justification for purchase. For example, seeing the number 57 in Heinz 57 sauce may make the consumer feel the product has good quality and therefore like it more when she has a need for thrift. However, the numerical information has very different roles in the product series paradigm where it suggests membership in a particular product generation and may no longer sustain a thrust goal (unless this number information is accompanied by a declarative product message that suggests a utilitarian product specification improvement to meet the need for thrift, which was not the case in this study). That being said, this interesting finding that the numerical label tends to be irresponsible to goal priming remains consistent with the focal conclusion that numerical and descriptive extrinsic cues activate distinct psychological avenues – expectancy and fit, respectively – to process such information.

Like the results in the previous study, study 4 also confirms the nonconscious process prediction in hypothesis 3. Particularly, I find that the incidental goal priming is processed in a nonconscious manner, which is in line with the rich literature on nonconscious goals (Chartrand et al., 2008; Chartrand, 2005; Fitzsimons et al., 2002; Fitzsimons and Shiv, 2001).

GENERAL DISCUSSION
This research mainly attempts to contribute to three theoretical topics. The first issue concerns the conceptualization of distinct processing patterns between parallel information sources. Schwarz (2006) proposes that cognitions are inherently situational and adaptive. The findings in this present research are consistent with this theorizing in that when consumers face the numerical labels in a product series, they are hardwired to distinctly activate an expectancy mode to search outward for information on the expected product specification improvement. When they face the parallel descriptive labels, they are instead hardwired to distinctly activate a fit mode to search inward for incidental goals that facilitate the interpretation of the anticipated product experience. Meanwhile, the experimental results here suggest that a numerical extrinsic cue is not conducive to a regulatory fit pathway while a descriptive extrinsic cue is not conducive to an expectancy pathway.

This research furthers the understanding of the conceptual consumption account (Ariely and Norton, 2009) since the pattern here speaks for a distinctness property between competing conceptual consumption classes. Therefore, it may be interesting to investigate in the future what causes the compatibility between certain types of information and certain classes of conceptual consumption. Correspondingly, it is advisable to study other sources of parallel information that are capable of activating distinct conceptual consumption modes.

The second theoretical issue concerns nonconscious processing of extrinsic cues. This research offers evidence in support of the perspective that extrinsic cues may be processed unconsciously and certain metacognitive experiences have their nonconscious foundations (e.g., Fitzsimons et al., 2002; Chartrand et al., 2008). Particularly, this research identifies the nature of the non-consciousness in the label effect. I find that consumers are unaware of the activation of this nonconscious process because they cannot identify the label as a source of the process. Moreover, consumers are oblivious of the process itself – they cannot tell that either the expectation on the specification-induced outcome (when they are in the expectancy mode) or the incidental goal (when they are in the fit mode) is the actual force behind this process.

The third theoretical issue concerns the consumption of inter-product concepts. Even within the school of the conceptual consumption research, I argue that the inter-product concepts are very under-researched. The efforts have been disproportionally focused on a single-product paradigm to study how the extrinsic cues for this product (e.g., price, brand) lead to various psychological effects. However, the same extrinsic cues could lead to different
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predictions when used in a product series paradigm where there is a whole new class of (inter-product) concepts, such as innovation. In summary, the distinctness, non-consciousness, and interdependence properties in consuming information have significant merits on their own and warrant further attentions from the academia and the practitioners alike.

REFERENCES